

STABLE HIGH EFFICIENCY MULTIPLE WAVELENGTH LASER SOURCES

Abstract of the Invention

In a stabilized laser system, an output of a desired wavelength is generated. Each of a plurality of n lasers, which, while emitting light and having a preselected portion thereof fed back thereto, causes the fed back portion to be amplified and shifted in wavelength in a first direction which is spaced apart from the center wavelength of the feedback signal. A feedback stabilization arrangement is coupled to output ports of the plurality of n lasers for generating a feedback signal having a wavelength spectrum peaking at a wavelength shifted in an opposite direction to the first direction generated by the lasers in response to the feedback signal so as to provide an output signal at the output of the stabilized laser system having a wavelength spectrum that peaks essentially at the desired wavelength. A reflector is located at a predetermined signal round-trip time delay distance from the feedback stabilization arrangement. The reflector receives the output signal from the feedback stabilization arrangement and passes a first portion thereof therethrough, and reflects a remaining second portion back to the feedback stabilization arrangement as a secondary feedback signal that contributes to each of the plurality of n laser sources being set in a stable coherence collapse mode.